

chromophore or fluorophore as they are resolved by electrophoresis.

32. A method of sequencing by the chain termination method according to claim 31 wherein a primer oligonucleotide labeled with a colored tag is used.

33. The method of sequencing by the chain termination method according to claim 31 wherein a primer oligonucleotide labeled with a fluorescent tag is used.

34. The method of sequencing by chemical degradation method according to claim 31 wherein oligonucleotide molecules labeled with a colored tag are used.

35. The method of sequencing by chemical degradation method according to claim 31 wherein oligonucleotide molecules labeled with a fluorescent tag are used.

36. In the method for the electrophoretic analysis of DNA fragments produced in DNA sequencing operations, the improvement which comprises providing tagged DNA fragments, wherein a set of four chromophores or fluorophores are used to tag said DNA fragments, each tag being distinguishable from the others by its spectral characteristics, and detecting said fragments by means of the chromophores or fluorophores as they are resolved by electrophoresis.

37. In the method of DNA sequencing by the chain termination method, the improvement wherein the primer oligonucleotide used in each of the four sequencing reactions, A, C, G, and T, has a different colored tag attached to it, each tag

being distinguishable from the others by its spectral characteristics, and wherein aliquots of the aforesaid sequencing reactions are electrophoresed, and detected by means of the tag after their separation.

C 38. In the method of DNA sequencing by the chain termination method, the improvement wherein the primer oligonucleotide used in each of the four sequencing reactions, A, C, G, and T, has a different fluorescent tag attached to it, each tag being distinguishable from the others by its spectral characteristics, and wherein aliquots of the aforesaid sequencing reactions are combined and electrophoresed, and detected by means of the tag after their separation.

39. In the method of DNA sequencing by chemical degradation method, the improvement wherein the DNA molecules are labeled with different colored tags, each tag being distinguishable from the others by its spectral characteristics, and a different colored DNA is used in each of the chemical modification reactions, and aliquots of the aforesaid sequencing reactions are combined and electrophoresed, and detected by means of the tag after their separation.

40. In the method of DNA sequencing by chemical degradation method, the improvement wherein the DNA molecules are labeled with different fluorescent tags, each tag being distinguishable from the others by its spectral characteristics, and a different fluorescent DNA is used in each of the chemical modification reactions, and aliquots of the aforesaid sequencing

reactions are combined and electrophoresed, and detected by means of the tag after their separation.

41. In the method of DNA sequencing by the chemical degradation method, the improvement wherein the DNA molecules are provided with an amino group, which is coupled to a dye molecule subsequent to the sequencing reactions.

C1 42. In the method of DNA sequencing by the chemical degradation method, the improvement wherein the DNA molecules are provided with a protected amino group, which is deblocked and coupled to a dye molecule subsequent to the sequencing reactions.

43. In the method of claim 41, the further improvement wherein the products of each of the ^{several more} different sequencing reactions are coupled with a different color dye, each dye being distinguishable from the others by its spectral characteristics, aliquots of the dye labeled reaction are electrophoresed, and detected by means of the dye after their separation.

44. In the method of claim 42, the further improvement wherein the products of each of the ^{several more} different sequencing reactions are coupled with a different color dye, each dye being distinguishable from the others by its spectral characteristics, aliquots of the dye labeled reaction are electrophoresed, and detected by means of the dye after their separation.